

In the Claims:C L A I M S

1. (currently amended) A heat recovery arrangement comprising:

a building interior;

a bathroom;

an area of safe exhaust;

a housing including a bathroom exhaust inlet operably connected to the bathroom, an exhaust outlet operably connected to the area of safe exhaust, a bathroom exhaust airflow path through the housing from the bathroom exhaust inlet to the exhaust outlet, a return air inlet operably connected to the building interior, a return airflow path through the housing from the return air inlet to the exhaust outlet, an outside air inlet, a supply air outlet operably connected to the building interior, and an outside air path through the housing from the outside air inlet to the supply air outlet; and

a heat recovery device transferring heat between the bathroom exhaust airflow path, the return airflow path and the outside airflow path.

2. (original) The arrangement of claim 1 where the heat recovery device extracts heat from the outside airflow path and transfers heat to the bathroom exhaust airflow path and to the return airflow path.

3. (original) The arrangement of claim 1 where the heat recovery device extracts heat from the bathroom exhaust airflow path and from the return airflow path and transfers heat to the outside airflow path.

4. (original) The arrangement of claim 3 wherein the heat transfer device includes a first portion for exchanging heat with the return airflow path and a second portion for exchanging heat with the bathroom exhaust airflow path.

5. (previously presented) The arrangement of claim 4 wherein the bathroom exhaust inlet includes a first modulating device.

6. (previously presented) The arrangement of claim 5 wherein the return air path includes a relief damper operable in conjunction with the first modulating device to balance the pressure between the bathroom exhaust airflow path and the return airflow path.

7. (previously presented) The arrangement of claim 6 wherein the outside air inlet includes a second modulating device.

8. (previously presented) The arrangement of claim 7 wherein a single exhaust fan provides a motivating force for air in both the bathroom exhaust airflow path and the return airflow path.

9. (canceled)

10. (previously presented) The arrangement of claim 1 wherein a single exhaust fan provides a motivating force for both the bathroom exhaust airflow path and the return airflow path.

11. (previously presented) The heat recovery arrangement of claim 3 wherein the heat recovery device includes a rotating energy recovery wheel arrangement such that the device sequentially extracts heat first from the bathroom exhaust airflow path and then from the return airflow path.

12. [withdrawn] A method of recovering energy comprising the steps of:

providing a bathroom exhaust airflow path to an air handler;

providing a building exhaust airflow path to the air handler;

providing an outside airflow path through the air handler;

extracting heat from the system exhaust and bathroom exhaust airflow paths; and

transferring the extracted heat to the outside air flow path.

13. [withdrawn] The method of claim 12 including the further step of providing a divider wall between the bathroom exhaust airflow path and the building exhaust airflow path.

14. [withdrawn] The method of claim 13 wherein the extracting and transferring steps include a rotating energy wheel.

15. [withdrawn] The method of claim 14 wherein the extracting step includes the steps of sequentially extracting heat first from the bathroom exhaust airflow path and then from the system exhaust airflow path.

16. [withdrawn] The method of claim 15 including the further step of using the heated outside air to condition a building.

17. [withdrawn] The method of claim 13 wherein the extracting and transferring steps include a plate heat exchanger.

18. [withdrawn] A method of recovering energy comprising the steps of:

providing a bathroom exhaust airflow path to an air handler;

providing a building exhaust airflow path to the air handler;

providing an outside airflow path through the air handler;

extracting heat from the outside air flow path; and  
transferring the extracted heat to the system exhaust and bathroom exhaust airflow paths.

19. [withdrawn] The method of claim 18 including the further step of providing a divider wall between the bathroom exhaust airflow path and the building exhaust airflow path.

20. [withdrawn] The method of claim 19 wherein the extracting and transferring steps include a rotating energy wheel.

21. [withdrawn] The method of claim 20 including the further step of transferring heat from the bathroom exhaust airflow path and the system exhaust airflow path to the outside airflow path if outside ambient temperatures are low.

22. [withdrawn] The method of claim 21 including the further step of using the heated outside air to condition a building.

23. [withdrawn] The method of claim 19 wherein the extracting and transferring steps include a plate heat exchanger.

24. (currently amended) An arrangement for recovering energy comprising:

a bathroom;

a building interior;

an area of safe exhaust;

an area of outdoor air;

a fan for moving air;

a bathroom exhaust airflow path ~~to~~ from the bathroom through the fan to the area of safe exhaust;

a building exhaust airflow path ~~to~~ from the building interior through the fan to the area of safe exhaust;

an outside airflow path from the area of outside air through the fan to the building interior; and

means for extracting heat from the system exhaust and bathroom exhaust airflow paths, ~~and means~~ for transferring the extracted heat to the outside air flow path.

25. (withdrawn) The arrangement of claim 24 further including a divider wall between the bathroom exhaust airflow path and the building exhaust airflow path.

26. (withdrawn) The arrangement of claim 25 wherein the extracting and transferring means include a rotating energy wheel.

27. (withdrawn) The arrangement of claim 26 wherein the extracting means includes means for sequentially extracting heat first from the bathroom exhaust airflow path and then from the system exhaust airflow path.

28. (withdrawn) The arrangement of claim 27 further including using the heated outside air to condition a building.

29. (withdrawn) The arrangement of claim 28 wherein the extracting and transferring means include a plate heat exchanger.

30. (currently amended) An energy recovery system comprising:

a bathroom;

a building interior;

an area of outside air;

an area of safe exhaust;

a bathroom exhaust airstream path operably connecting the bathroom and the area of safe exhaust;

a return airstream path operably connecting the building interior and the area of safe exhaust;

~~a divider wall between the bathroom exhaust airstream path and the return airstream path;~~

an outside airstream path operably connecting the area of outside air and the building interior; and

a heat transfer device transferring heat from the bathroom exhaust airstream and the return airstream path to the outside airstream flow path.

31. (original) The system of claim 30 wherein the bathroom exhaust airstream airflow path includes an airflow control damper and an airflow monitor.

32. (previously presented) The system of claim 31 further including a relief damper to balance the pressure between the bathroom exhaust airstream path and the return airstream path.

33. (previously presented) The system of claim 32 further including a single exhaust fan providing a motivating force to air in both the bathroom exhaust airflow stream path and the return airstream airflow path.

34. (currently amended) An energy recovery system comprising:

a bathroom;

a building interior;

an area of outside air;

an area of safe exhaust;

a bathroom exhaust airstream path operably connecting the bathroom and the area of safe exhaust;

a return airstream path operably connecting the building interior and the area of safe exhaust;

~~a divider wall between the bathroom exhaust airstream path and the return airstream path;~~

an outside airstream path operably connecting the area of outside air and the building interior; and

a heat transfer device transferring heat from the outside airstream flow path to the bathroom exhaust airstream and the return airstream path.

35. (original) The system of claim 34 wherein the bathroom exhaust airstream airflow path includes an airflow control damper and an airflow monitor.

36. (previously presented) The system of claim 35 further including a relief damper to balance the pressure between the bathroom exhaust airstream path and the return airstream path.

37. (previously presented) The system of claim 36 further including a single exhaust fan providing a motivating force to both air in the bathroom exhaust airflow stream path and the return airstream airflow path.